

## A B S T R A C T

5 A flexible substrate (110) having flexibility and  
a fixed substrate (120) disposed so as to oppose it are  
supported at their peripheral portions by a sensor casing  
(140). An oscillator (130) is fixed on the lower surface of  
the flexible substrate. Five lower electrode layers (F1 to  
F5: F1 and F2 are disposed at front and back of F5) are  
formed on the upper surface of the flexible substrate. Five  
10 upper electrode layers (E1 to E5) are formed on the lower  
surface of the fixed substrate so as to oppose the lower  
electrodes. In the case of detecting an angular velocity  $\omega_x$   
about the X-axis, an a.c. voltage is applied across a  
predetermined pair of opposite electrode layers (E5, F5) to  
15 allow the oscillator to undergo oscillation  $U_z$  in the  
Z-axis direction. Thus, a Coriolis force  $F_y$  proportional to  
the angular velocity  $\omega_x$  is applied to the oscillator in  
the Y-axis. By this Coriolis force  $F_y$ , the oscillator is  
caused to undergo displacement in the Y-axis direction. As  
20 a result, the distance between opposite electrode layers  
(E3, F3) arranged in the positive direction of the Y-axis  
becomes smaller, and the distance between opposite electrode  
layers (E4, F4) arranged in the negative direction of the  
Y-axis becomes greater. Thus, capacitance value C3 increases  
25 and capacitance value C4 decreases. By change of the  
capacitance value, it is possible to detect the magnitude

of the Coriolis force  $F_y$ , and to determine angular velocity  $\omega_x$ . Similarly, it is possible to detect an angular velocity  $\omega_y$  about the Y-axis and an angular velocity  $\omega_z$  about the Z-axis.